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10/797,238

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Rajeev B. Rajan

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WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION)
CIRA CENTRE, 12TH FLOOR
2929 ARCH STREET
PHILADELPHIA, PA 19104-2891

EXAMINER

TIMBLIN, ROBERT M

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/797,238	Applicant(s) RAJAN ET AL.	
	Examiner ROBERT TIMBLIN	Art Unit 2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-17, 19-22 and 24-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-17, 19-22 and 24-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action corresponds to application 10/797,238 filed 3/10/2004.

Response to Amendment

Amendments to claims 1, 6, 14, 19, 24, 29, and the cancellation of claims 13, 18, and 23 have been entered and acknowledged. Claims 1-12, 14-17, 19-22, and 24-35 are pending in this application.

Claim Objections

The objection to claim 2 for a missing period has been withdrawn in light of the correction in the present amendments.

Claims 1, 14, 19, and 24 are objected to because “the database” in these claims (e.g. “a query language of *the database*” in claim 1) lacks antecedent basis.

Claims 1, 14, 19, and 24 are also objected to because while the receiving clause (for example in claim 1) has deleted the “application programming interface requests”, the clause beginning with “in response to...” remains to include this portion. Therefore, the phrase “...the file system statement that is independent of any database application programming interface requests” may lack antecedent basis. The Examiner questions if this phrase were instead to recite the amended “commands employing a query language of the database.”

Claim Rejections - 35 USC § 101

Claims 13, 18, and 23 are no longer rejected under 35 U.S.C. 101 because these claims have been cancelled.

Claim 24 are now accepted under 35 USC 101 for claiming a hardware system (i.e. a machine) including a processor. In accordance with figure 7 and Applicant's paragraph 0059, the processor is best construed as a hardware processor in a computer system (i.e. it is connected to various hardware components in a computer). The rejection has been withdrawn.

Claim Rejections - 35 USC § 112

In light of the amendments, claims 6, 14, 19, and 29 are now accepted under 35 U.S.C. 112.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-12, 14, 16-17, 20-22, 24, and 26-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Sedlar U.S. Patent 6,922,708. In the following citations, drawings, and drawing references, Sedlar teaches:

With respect to claim 1, A method for executing a file system statement in the context of a transaction, the method comprising:

receiving the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) comprising a call to open an item (col. 12 line 65 – opening a file), a call to read from the item (col. 12 line 65 – reading a file) or to write to the item (col. 12 line 65 – writing to a file), and a call to close the item (col. 12 line 66 – closing a file), the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) being independent of any database commands employing a query language of the database (col. 5 line 10-13);

associating the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) with the transaction (col. 3 line 43-46); and

in response to receiving the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) that is independent of any database application programming interface requests (col. 5 line 10-13), starting the transaction by acquiring one of a read lock (col. 14 line 1-3) and a write lock (col. 12 line 65-66) on a data table row corresponding to the item (col. 13 line 7 and 41-42 – i.e. locking a row associated with a file).

With respect to claim 3, the method of claim 1, further comprising associating a second statement with the transaction (col. 13 line 59-64).

With respect to claim 4, the method of claim 3, comprising associating the second statement with the transaction, the second statement being another file system statement (col. 13 line 65-67).

With respect to claim 5, the method of claim 3, comprising associating the second statement with the transaction, the second statement being a transactional query language statement (col. 14 line 10-20).

With respect to claim 6, the method of claim 1, wherein starting the transaction comprises:

determining whether starting the transaction will result in a conflict (col. 13 line 35-46; e.g. determining a session lock on data);

if starting the transaction will result in a conflict, then resolving the conflict according to a conflict resolution scheme (col. 13 line 36-40 and col. 14 line 1-5; e.g. waiting until a transaction commits to see changes to data or new rows); and

if starting the transaction will not result in a conflict, then starting the transaction (col. 13 line 42-46).

With respect to claim 7, the method of claim 1, wherein acquiring the read lock on the row comprises acquiring a read committed view of the row (col. 14 line 4-5).

With respect to claim 8, the method of claim 1, wherein acquiring the write lock on the row comprises acquiring a write lock that will prevent another transaction from accessing the row while the transaction is being processed (col. 13 line 35-47).

With respect to claim 9 the method of claim 1, wherein acquiring the write lock on the row comprises acquiring a write lock that will prevent a non-transacted file system statement from accessing the row while the transaction is being processed (col. 14 line 5-22).

With respect to claim 10, the method of claim 1, wherein acquiring the write lock on the row comprises acquiring a write lock that will prevent another statement within the transaction from writing to the row (col. 13 line 66-col. 14 line 2).

With respect to claim 11, the method of claim 1, wherein acquiring the write lock on the row comprises acquiring a write lock that will enable another statement within the transaction to read from the row (col. 13 line 56-57).

With respect to claim 12 and similar claims 17, 22 and 35, the method of claim 1, comprising starting the transaction by acquiring one of a read lock and a write lock on a file stream field of the row (col. 10 line 8-24 and col. 11 line 41).

With respect to claim 14, A method for locking and isolation of a file system statement, the method comprising:

receiving the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) comprising a call to open an item (col. 12 line 65 – opening a file), a call to read from the item (col. 12 line 65 – reading a file) or to write to the item (col. 12 line 65 – writing to a file), and a call to close the item (col. 12 line 66 – closing a file), the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) being independent of any database commands employing a query language of the database (col. 5 line 10-13);

in response to receiving the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) that is independent of any database application programming interface requests (col. 5 line 10-13), determining a read lock is available (col. 13 line 35-45) for a row of a data table corresponding to the item (col. 13 line 7 and 41-42 – i.e. locking a row associated with a file);

if the read lock is not available for the row of the data table corresponding to the item, then failing the open (col. 13 line 36-40 and col. 14 line 1-5; e.g. waiting until a transaction commits to see changes to data or new rows); and

if the read lock is available for the row of the data table corresponding to the item, then acquiring a read lock on the row (col. 13 line 42-46).

With respect to claim 16, the method of claim 14, wherein acquiring the read lock on the row comprises acquiring a read committed view of the row (col. 14 line 4-5).

With respect to claim 19, A method for locking and isolation of a file system statement, the method comprising:

receiving the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) comprising a call to open an item (col. 12 line 65 – opening a file), a call to read from the item (col. 12 line 65 – reading a file) or to write to the item (col. 12 line 65 – writing to a file), and a call to close the item (col. 12 line 66 – closing a file), the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) being independent of any database commands employing a query language of the database (col. 5 line 10-13);

in response to receiving the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) that is independent of any database application programming interface requests (col. 5 line 10-13), determining if a write lock is available (col. 13 line 35-45) for a row of a data table corresponding to the item (col. 13 line 7 and 41-42 – i.e. locking a row associated with a file);

if the write lock is not available for the row of the data table corresponding to the item, then failing the open (col. 13 line 36-40 and col. 14 line 1-5; e.g. waiting until a transaction commits); and

if the write lock is available for the row of the data table corresponding to the item, then acquiring a read lock on the row (col. 13 line 42-46).

With respect to claim 21, the method of claim 19, wherein acquiring the write lock on the row comprises acquiring a write lock that will prevent another statement from accessing the row while the statement is being processed (col. 13 line 40-45).

With respect to claim 24, A system for executing a file system statement in the context of a transaction, the file system statement including a call to open an item, one of a call to read from the item and a call to write to the item, and a call to close the item, the system comprising:

a processor (1804);

a relational data engine (figure 7 and 204) comprising a data table (710) having a row (fig. 7, Row ID) corresponding to the item (File ID);

a storage platform (figures 3 and 4, references 108 and 204) built on the relational data engine (figure 7 and 204), the storage platform (figures 3 and 4, references 108 and 204) comprising means for associating the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) with the transaction (col. 3 line 43-46), and means for starting the transaction by acquiring one of a read lock (col. 14 line 1-3) and a write lock (col. 12 line 65-66)

on a data table row ((col. 13 line 7 and 41-42 – i.e. locking a row associated with a file) the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) comprising a call to open (col. 12 line 65 – opening a file), a call to read from the item (col. 12 line 65 – reading a file) or to write to the item (col. 12 line 65 – writing to a file), and a call to close the item (col. 12 line 66 – closing a file), the file system statement (col. 3 line 40-45 and col. 12 line 45-50; i.e. an OS file system call) being independent of any database commands employing a query language of the database (col. 5 line 10-13).

With respect to claim 26, the system of claim 24, wherein the storage platform further comprises means for associating a second statement with the transaction (col. 13 line 59-64).

With respect to claim 27, the system of claim 26, wherein the second statement is another file system statement (col. 13 line 65-67).

With respect to claim 28 the system of claim 26, wherein the second statement is a transactional query language statement (col. 14 line 10-20).

With respect to claim 29, the system of claim 24, wherein the means for starting the transaction comprises means for performing the following steps:

determining whether starting the transaction will result in a conflict (col. 13 line 35-46; e.g. determining a session lock on data);

if starting the transaction will result in a conflict, then resolving the conflict according to a conflict resolution scheme (col. 13 line 36-40 and col. 14 line 1-5; e.g. waiting until a transaction commits to see changes to data or new rows); and

if starting the transaction will not result in a conflict, then starting the transaction (col. 13 line 42-46).

With respect to claim 30, the system of claim 24, wherein the read lock provides a read committed view of the row (col. 14 line 4-5).

With respect to claim 31, the system of claim 24, wherein the write lock prevents another transaction from accessing the row while the transaction is being processed (col. 13 line 35-47).

With respect to claim 32, the system of claim 24, wherein the write lock prevents a non-transacted file system statement from accessing the row while the transaction is being processed (col. 14 line 5-22).

With respect to claim 33, the system of claim 24, wherein the write lock prevents another statement within the transaction from writing to the row (col. 13 line 66-col. 14 line 2).

With respect to claim 34, the system of claim 24, wherein the write lock enables another statement within the transaction to read from the row (col. 13 line 56-57).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 15, 19, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sedlar as applied to claims 1, 3-12, 14, 16-17, 20-22, 24, and 26-35 above in view of Reed et al ('Reed' hereafter) (U.S. Patent 7,035,874 B1).

With respect to claim 2 and similar claims 15, 19, and 24, Sedlar fails to teach a data table row that includes a user defined type corresponding to the item.

Reed, however, teaches a data table row that includes a user defined type corresponding to the item (col. 4 line 19, i.e. a MediaUDT) for including a user defined type field (Reed at col. 1 line 14-16).

In the same field of endeavor, (i.e. data control), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the

teachings of the cited references because Reed would have given Sedlar a user defined type field for a more robust system of including user defined data types.

Response to Arguments

Applicant's arguments, see page 9, of the reply filed 1/25/2008, with respect to the rejection(s) of claim(s) 1, 3-11, 13, 14, 16, 18, 20, 21, 23, and 35-34 under 102(b) have been fully considered and are persuasive. In particular, Bamford is seen to use SQL statements to access a database (e.g. see figure 2) which employ a query language of a database. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Sedlar.

Applicant argues that the database commands of Bamford cannot be analogous to the claimed file system statements of the present application because Bamford provides isolation levels in a database system. This argument has been persuasive, however, Sedlar is now relied upon to teach the foregoing.

Specifically, Sedlar is oriented towards processing transactions in a file system. Sedlar explicitly defines using Operating System (OS) File system commands (col. 12, line 45, for example). Among these commands are open file, write to file, read from file, lock file, and close file (see table at the top of column 13). The Examiner respectfully submits that these are a subset of file system statements that are independent of any database commands employing a query language of the database as found in the present independent claims 1, 14, 19, and 24. Restated, the file system statements used in Sedlar are not query language statements and therefore are independent of query language statements. These statements are initiated by an OS

file application programming interface (API) rather than a database file API and therefore are independent of commands employing a query language of a database.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Timblin whose telephone number is 571-272-5627. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John R. Cottingham/
Supervisory Patent Examiner, Art Unit
2167

/ROBERT TIMBLIN/
Examiner, Art Unit 2167